



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

June 30, 2010

Mr. Hudson La Force III
Senior Vice President and Chief Financial Officer, W.R. Grace & Co.
7500 Grace Drive
Columbia, MD 21044

Re: W.R. Grace & Co.
Form 10-K for the fiscal year ended December 31, 2009
Filed February 25, 2010
File No. 1-13953

Dear Mr. La Force:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the year ended December 31, 2009

Item 10. Directors, Executive Officers and Corporate Governance, page 34

General

1. In future filings please disclose Mr. Tomkin's employment status since January 2006. If he is retired or self-employed, so state. See Item 401(e)(1) of Regulation S-K.

Item 11. Executive Compensation, page 36

Annual Incentive Compensation, page 41

2. Please tell us and in future filings disclose the AICP target for each named executive officer. Other than disclosure about Mr. Festa's target, we note that for the other named executive officers your disclosure provides only a range of targets (65%-80% of respective base salary).
3. In future filings please disclose the actual level of target achievement or provide a reference where this information can be found in the financial statements (see page F-76 related to net cash from operating activities, and page F-78 related to the 2009 Core EBIT values).
4. With a view toward future disclosure, please tell us how you determined the AICP pool size to be 129% of the targeted awards. Please ensure to discuss whether each performance target was given a particular weight in determining the size of the award pool.
5. Please tell us and in future filings disclose a materially complete description of the correlation between performance under the AICP and the payouts actually made to each of your named executive officers. Please understand that discussion of the various items of corporate and individual performance that were considered by the committee must be accompanied by a complete qualitative and quantitative discussion of how the committee determined to award each specific form and level of compensation in 2008. For each named executive officer state the factors that you considered in deriving the payouts awarded for each component of compensation and provide substantive analysis and insight into why the Committee determined that the levels of compensation were appropriate in light of the factors considered.
6. On page 41 you state that one of the factors considered in determining an individual award payment under the AICP is "the individual's personal performance." Please explain, and to the extent applicable, in future filings disclose, how the individual performance of each named executive officer influenced the compensation committee's decision in awarding the payment amounts disclosed on top of page 43. Please discuss each named executive officer's personal objectives by also identifying the specific contributions made by each named executive officer and contextualize those achievements for purposes of demonstrating how they resulted in specific compensation decisions.

Potential Payments Upon Termination or Change in Control, page 53

7. In future filings please disclose the individual components of the total payment amounts triggered by a termination or a change in control event. As such, please consolidate your page 57 disclosure related to the LTIP award payments with your footnote (b) disclosure to help the investors better understand how you are deriving the amounts disclosed on page 53. Please show us in your supplemental response what the revisions will look like.

Termination and Change in Control Arrangements, page 54

8. In future filings please revise your disclosure related to the CEO's and the other executive officers' severance arrangements to describe how the severance payments would be paid (i.e., as a lump sum, monthly or annually).

Item 15. Exhibits and Financial Statement Schedules, page 64

9. With respect to Exhibit 4.4, please correct the date in future filings to reflect that the Form 10-Q was filed on August 13, 1999.
10. In future filings, please ensure that each exhibit, including Exhibits 12, 31.(i).1 and 31.(i).2, is filed as a separate exhibit on EDGAR.

MD&A

Adjusted Operating Cash Flow, page F-75

11. We note that you use a non-GAAP measure you identify as "Adjusted Operating Cash Flow" to evaluate the performance of your business. Given that operating cash flow is widely understood to be a liquidity measure, there is concern that investors may not fully understand your basis for characterizing "Adjusted Operating Cash Flow" as a performance measure. If you maintain this measure as a performance measure, please prospectively change the title of this measure to avoid any undue confusion. Please comply with this comment in all future filings.

Critical Accounting Estimates, page F-100

12. To the extent applicable, please revise your disclosures in future filings to quantify and discuss the potential impact of changes in critical accounting estimates on your financial statements. For example, please revise your disclosures related to pension and other post-retirement benefits expenses and liabilities to quantify and discuss the impact of changes in significant assumptions, including discount rates and the rate of return on plan assets. Also, please revise your disclosures related to income taxes to quantify and discuss the positive and negative evidence you identified in determining your tax

valuation allowance, as well as the amount of taxable income required to be generated to fully realize your deferred tax assets.

Notes to the Consolidated Financial Statements

1. Basis for presentation...revenue recognition, page F-11

13. Please tell us, and clarify in future filings, when risk of loss and title transfer to your customers.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Mindy Hooker at (202) 551-3732 or Anne McConnell at (202) 551-3709 if you have questions regarding comments on the financial statements and related matters. Please contact Era Anagnosti at (202) 551-3369 or Andy Schoeffler at (202) 551-3748 or me at (202) 551-3689 with any other questions.

Sincerely,

John Hartz
Sr. Asst. Chief Accountant